

**READY-USE LOW-CARBON STEEL MECHANICAL COMPONENT FOR
PLASTIC DEFORMATION AND METHOD FOR MAKING SAME**

ABSTRACT

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A ready-for-use low-carbon steel mechanical component, like wheel swivel joints of
terrestrial vehicles, pins, shafts, suspension bars, links.... with elevated characteristics
obtained by a hot or cold plastic transformation of a laminated long steel product (wire
or rod) without any further heat treatment, the chemical composition of said steel
10 complies with the following analysis, given in percentages by weight, based on the iron:
 $C \leq 0.15\%$; $0.04\% \leq Nb \leq 0.10\%$; $0.001\% \leq B \leq 0.005\%$; $0.15\% \leq Mo \leq 0.35\%$; 1.3%
 $\leq Mn \leq 2.0\%$; $0.15\% \leq Si \leq 1.30\%$; $0.01\% \leq Al \leq 0.08\%$ and $N \leq 0.015\%$ with $Ti \geq$
 $3.5 \times \% N$ and said long steel product is obtained from a semi-finished product coming
from the continuous casting and hot-rolled in the austenitic range to obtain a bainitic or
15 essentially bainitic structure, and worked by a cold or hot plastic transformation into its
final shape, exhibiting a tensile strength at break greater than 800 MPa.
The invention is particularly directed to applications of stamping or cold forging or hot
forging. But, it also applies to other applications of plastic deformation, such as wire
drawing, deep drawing, stamping, etc...

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